



Best Management Practices for Construction and Development Projects Harlequin Darter *Etheostoma histrio*

Common name • Harlequin Darter
Scientific name • *Etheostoma histrio*
Federal status • None
State status • Endangered

Purpose and Use

The information in this document is to be used to help avoid and minimize species impacts due to construction practices. It is not intended to be used as a guide to manage habitat for a given species. If that is the goal, please contact the Department of Conservation for habitat management information. Because every project and location differs, following the recommendations within this document does not ensure that impacts will not occur to the species and additional information might be required in certain instances. Following the recommendations within this document does not complete Endangered Species Act consultation that may be necessary for species listed under the federal Endangered Species Act; please contact the U.S. Fish and Wildlife Service for more information.

Ecology

In Missouri, the Harlequin Darter is found in a limited number of streams and ditches in the lowlands of the southeastern part of the state. This species appears to have a seasonal migratory pattern, moving from larger rivers into tributaries in the warmer months of the year. It prefers areas of current with sandy bottoms where wood and other organic debris is present. Aquatic insects, including blackflies, caddisflies and mayflies, are the primary food source for this species. Adults are usually 1.5-3.0 inches in length. Sexual maturity is reached at one year of age and life expectancy can be up to four years. Spawning occurs in February and March.

Reasons for Decline

The Harlequin Darter is one of the rarest Missouri darters. Based on historical records, it was never considered common or widespread. Though populations may have declined in some parts of the species' range, extensions have apparently occurred in other areas. Activities such as channelization, irrigation, increased siltation, and loss of riparian vegetation could alter stream flows and reduce the quality of habitats used by Harlequin Darters.

Specific Recommendations

As a migratory species, the Harlequin Darter requires more than one type of habitat. For this reason,

recommendations for habitat protection apply to large rivers and all of their tributaries.

- Project activities should not occur below the high bank of the stream between February 1 and March 30.
- Limit clearing of vegetation, including both standing and downed timber, to that which is absolutely necessary for construction purposes.
- Riparian areas located down slope of construction zones should be physically screened with sediment controls, such as silt fences or filter strips. Sediment controls should be monitored after rain and maintained for the duration of the project.
- Sheet piling for coffer dams for the construction of bridge piers may be placed after March 30 but should be moved prior to February 1. Removal of coffer dams should be coordinated with appropriate Missouri Department of Conservation personnel.
- Increase habitat variability in ditches by leaving large woody debris and allow a greater amount of time to lapse between clearing drainage ditches (at least two-three years).
- Avoid installation of permanent stream crossings. If unavoidable, temporary crossings should be employed that do not restrict or interrupt natural stream flow. If temporary in-channel fill is necessary, culverts of sufficient size should be employed to avoid water impoundment and allow for fish passage.

General Recommendations

Refer to Management Recommendations for Construction Projects Affecting Missouri Streams and Rivers.

If your project involves the use of Federal Highway Administration transportation funds, these recommendations may not fulfill all contract requirements. Please contact the Missouri Department of Transportation at 573-526-4778 or www.modot.mo.gov/ehp/index.htm for additional information on recommendations.

Information Contacts

For further information regarding regulations for development in rivers, streams and wetlands, contact:

For species information:

[Missouri Department of Conservation](http://www.mdc.mo.gov)
Resource Science Division
P.O. Box 180
2901 W. Truman Blvd

Jefferson City, MO 65102-0180
Telephone: 573/751-4115

For species information and Endangered Species Act
Coordination:

[U.S. Fish and Wildlife Service](#)
Ecological Services
101 Park Deville Drive, Suite A
Columbia, MO 65203-0007
Telephone: 573/234-2132

For Clean Water Act Coordination:

[Missouri Department of Natural Resources](#)
Water Protection Program
P.O. Box 176
Jefferson City, MO 65102-0176
Telephone: 573/751-1300, 800/361-4827

[U.S. Army Corps of Engineers](#)
Regulatory Branch
700 Federal Building
Kansas City, MO 64106-2896
Telephone: 816/983-3990

[U.S. Environmental Protection Agency](#)
Water, Wetlands, and Pesticides Division
901 North 5th Street
Kansas City, KS 66101
Telephone: 913/551-7307

Disclaimer

These Best Management Practices were prepared by the Missouri Department of Conservation with assistance from state and federal agencies, contractors and others to provide guidance to those people who wish to voluntarily act to protect wildlife and habitat. Compliance with these Best Management Practices is not required by the Missouri wildlife and forestry law nor by any regulation of the Missouri Conservation Commission. Other federal laws such as the Clean Water Act and the Endangered Species Act, and state or local laws need to be considered for construction and development projects, and require permits and/or consultation with the appropriate agency. Following the recommendations provided in this document will help reduce and avoid project impacts to the species, but impacts may still occur. Please contact the appropriate agency for further coordination and to complete compliance requirements.